

1991 COMMAND HISTORY

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND
NATIONAL NAVAL MEDICAL CENTER
BETHESDA, MARYLAND



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COMMANDING OFFICER

Captain James N. Woody, MC, USN

Captain Woody was born on December 19, 1942, in Bay City, Michigan. In 1968, Captain Woody graduated from Loma Linda University in Loma Linda, CA, with a Doctor of Medicine Degree. He then attended Duke University Medical Center in Durham, NC, where he began his residency in Pediatrics.

From 1970 to 1971, Captain Woody was a Senior Resident and Teaching Fellow at Harvard Medical School, Children's Hospital Medical Center, in Boston, MA. He was subsequently commissioned in the United States Navy in 1971.

Captain Woody reported to the Naval Medical Research Institute, Bethesda, MD, as Staff Scientists in Experimental Immunology. From 1974 to 1977, he was Honorary Research Fellow of the Tumor Immunology Unit in the Department of Zoology at University College in London, England and was awarded a PhD for his work on T-cells and cytokines of the immune system. In 1977, Captain Woody returned to the Naval Medical Research Institute as Deputy Chief, Immunology Branch, Casualty Care Research Program Center. In 1985, Captain Woody assumed command of the U.S. Naval Medical Research Unit No. 3 in Cairo, Arab Republic of Egypt. From 1986, until his departure from Cairo in 1988, he also was Consultant to the World Health Organization Collaborating Center for AIDS. His current position as Commanding Officer of the Naval Medical Research and Development Command places him in charge of the U.S. Navy's medical research efforts. This includes 11 research facilities, some 1200 staff personnel and a budget of over \$70 million.

He holds a faculty appointment at Georgetown University School of Medicine where he is Attending Physician, Professor of Pediatrics and Microbiology, and he is a lecturer in Immunology and a Member of the Lombardi Cancer Center.

Captain Woody is a Diplomat of the National Board of Medical Examiners; Fellow, American Academy of Pediatrics; and is licensed for medical practice in the State of Maryland and in Washington, DC. He is currently a member of four professional organizations and several advisory committees. He has authored and co-authored over 120 professional publications in the fields of immunology, oncology and infectious diseases. Captain Woody was honored by the Egyptian Minister of Health and the World Health Organization for his work in Arab countries while in Cairo as the Commanding Officer of the U.S. Naval Medical Research Unit No. 3.

Captain Woody is married to the former Suzanne Taylor. They have two children, Alexandria and Justin. The Woody's make their home in Bethesda, MD.

CHANGE OF COMMAND AND RETIREMENT CEREMONY

A Change of Command and Retirement Ceremony for CAPT James N. Woody, MC, USN was held Thursday, 6 June 1991 on the steps of the Tower, Building One, National Naval Medical Center, Bethesda, MD.

Program of Events

Arrival of Official Party

RADM Robert W. Higgins, MC, USN
Deputy Surgeon General of the Navy

RADM Joseph S. Cassells
MC, USN, Retired

CAPT Kenneth W. Sell
MC, USN, Retired

Presentation of Colors

Naval District Washington Color Guard

Invocation

LCDR J.R. Tate, CHC, USN

Posting of Colors

Presentation of the Flowers to:

Mrs. Suzanne Woody

Mrs. Janet-Beth Flynn

Remarks by:

RADM Robert W. Higgins, MC, USN
Deputy Surgeon General of the Navy

RADM Joseph S. Cassells
MC, USN, Retired

CAPT Kenneth W. Sell
MC, USN, Retired

Reading of Orders and Remarks by:

James N. Woody
Captain, MC, USN

Reading of Orders and Remarks by:

Edward T. Flynn, JR.
Captain, MC, USN

Benediction

LCDR J. R. Tate, CHC, USN

Retiring of the Colors

Captain Edward T. Flynn, Jr., MC, USN

Captain Flynn was born in Hartford, CT, on 18 September 1941. He received a B.S. degree from Trinity College in Hartford, CT, in 1963, and received his Doctor of Medicine degree from the University of Pennsylvania in Philadelphia, PA in 1967. Captain Flynn entered the U.S. Navy in May 1967. After serving a rotating internship at the National Naval Medical Center in Bethesda, MD from 1967 to 1968, he completed six months of diving and submarine medicine training at the Naval Submarine Medical Center in Groton, CT. In 1969, Captain Flynn was designated a Qualified Submarine Medical Officer.

From 1969 to 1974, Captain Flynn served two tours of duty as a Undersea Research Medical Officer at the Navy Experimental Diving Unit in Washington, DC, and a two year post-doctoral fellowship in Hyperbaric Medicine and Respiratory Physiology at the State University of New York at Buffalo. During this period he was instrumental in developing innovative decompression procedures and thermal limits for deep diving. He served as an experimental subject on a 600 foot saturation dive and was the on-scene medical officer for a world record-breaking saturation dive to 850 feet off the coast of CA.

In 1975, Captain Flynn reported to the Naval School, Diving and Salvage, Washington, DC, as the Senior Medical Officer. During his tour, he introduced extensive changes in the medical officer curriculum and authored a 970 page Diving Medical Officer Student Guide which continues as the textbook used today.

Following completion of an anesthesia residency at the National Naval Medical Center in 1978, Captain Flynn reported to the Naval Medical Research Institute for duty as an Undersea Research Medical Officer. In 1981, he was appointed Head of the Physiology Division at the Naval Research Institute and in 1984, was named Head of the Diving Medicine Department. For the next five years, Captain Flynn organized and directed major medical research programs in support of Fleet and Naval Special Warfare diving operations. In 1990, Captain Flynn was appointed as the Naval Medical Research Institute's Chair of Science.

Captain Flynn is a Diplomat of the American Board of Medical Examiners and the American Board of Anesthesiology. He serves on two NASA Advisory panels dealing with space medicine as well as the Joint Advisory Committee on Clinical Hyperbaric Medicine. He is the author or co-author of 80 professional publications. His military decorations include the Legion of Merit, the Meritorious Service Medal with Gold Star, the Navy Unit Commendation, the Meritorious Unit Commendation with Bronze Star, and the National Defense Service Medal with Bronze Star.

Captain Flynn is married to the former Janet-Beth McCann of Philadelphia, PA. They have one daughter, Erin. The Flynn's make their home in Great Falls, VA.

Previous Commanding Officers

Previous Commanding Officers	
CAPT C.E. Brodine, MC, USN	1974 - 1977
CAPT J.D. Bloom, MC, USN	1977 - 1980
CAPT J.F. Kelly, DC, USN	1980 - 1985
CAPT W.M. Houk, MC, USN	1985 - 1988
CAPT J.N. Woody, MC, USN	1988 - 1991
CAPT E.T. Flynn, MC, USN	1991 -

BACKGROUND

Medical research has been an integral part of the U.S. Navy for as long as medical personnel have embarked on Naval vessels. Until World War II, medical research was primarily the result of the initiative and creativity of individual medical officers. However, the massive efforts expended during World War II completely changed the way research and development was viewed by the Navy. Research was recognized as an important component of the Navy's ability to meet future needs. Also recognized was the necessity for a coherent organization to effectively manage the resources devoted to research and carry out the programs needed by the operating forces. Navy Medicine was no exception to this process.

During World War II and the subsequent years, vital medical research programs were developed in a number of Navy Medical in-house laboratories. The management of these programs was accomplished by the Research Division of the Bureau of Medicine and Surgery (BUMED). By 1974, the medical research programs supported by BUMED had grown to such stature and complexity that the Naval Medical Research and Development Command was established as an Echelon III headquarters activity to exercise full oversight responsibilities for Navy Medical Research, Development, Test, and Evaluation (RDT&E) work.

Current medical research and development efforts are directly linked to the requirements for Medical Department support of the Operational Navy and Fleet Marine Forces, with an emphasis on readiness and sustainability. In a conventional medical sense, responsibilities range from diagnosis, prevention, and treatment of diseases to enhance sailor's and Marine's fighting capability in any environment.

Such a broad range of responsibilities require a careful application of scarce resources in order to solve the problems being generated by the global commitments of our operational forces, now and in the future. To meet this challenge, the Naval Medical Research and Development Command oversees an interdisciplinary in-house team of 1300 military and civilian members representing over fifty scientific, engineering, and technical occupational specialties, located in eleven field activities in the United States and foreign countries. In addition, the Naval Medical Research and Development Command maintains a contract research program, works closely with the U.S. Army, the U.S. Air Force and other Federal agencies; and collaborates fully with private industry to encourage an interest in supporting and developing products to meet Navy and Marine Corps operational requirements.

Major Research Program Areas	
Combat Casualty Care	Submarine and Diving Medicine
Aviation Medicine and Human Performance	Infectious Diseases
Fleet Occupational Health	Combat Dentistry

Within each of these categories of research, the Naval Medical Research and Development Command endeavors to provide support in the areas of surface, undersea, and amphibious assault, as well as special operations missions.

MAJOR RESEARCH PROGRAM AREAS

Combat Casualty Care

The Combat Casualty Care Program, Naval Medical Research and Development Command's largest research program, focuses on operational readiness, mission effectiveness, and medical support for deployed combat forces. Timely and effective treatment for combat trauma is essential for optimal return to duty of personnel, overall mission effectiveness, and elimination or reduction of injury complications. Medical complications from severe hemorrhage, wound contamination, shock lung, septic shock, severe burns, radiation exposures, non-freezing cold injuries, immersion hypothermia, and injuries due to chemical and biological warfare agents are the focus of innovative research and development efforts.

Infectious Disease

Because sailors and Marines are deployed around the world, Navy laboratories in the United States and overseas are constantly assessing infectious diseases that could threaten military operations. The Infectious Disease Program includes basic and applied studies related to the prevention, diagnosis, and treatment of military relevant infectious diseases. Basic research in microbiology, immunology, pathogenesis, disease prevention, and vector transmission provides insight into developing prevention and treatment measures. Applied studies focus on the development and testing of vaccines, prophylactic and therapeutic drugs, as well as the development of rapid identification and diagnostic methods and equipment.

Diving and Submarine Medicine

The Diving and Submarine Medicine Program focuses on the safety and readiness of Navy divers and submariners. The Navy's diving research program represents a unique center of expertise that investigates a wide range of medical and physiological problems related to diving. Research efforts are related to submarine rescue, deep water recovery, underwater construction, special forces operations, explosive ordnance disposal and other underwater applications. The extraordinary working environment of a submarine is the focus of researchers who evaluate the environmental controls and occupational medical aspects of submarine operations. The major efforts include sonarman performance, medical qualifications for submarine duty and improved crew health and safety.

Fleet Occupational Health

The Fleet Occupational Health Program studies the physiological and biological impact of Navy systems and technologies. The program focuses primarily on two areas, the assessment of biomedical risk and the development of safe exposure criteria. Researchers evaluate exposure to Navy-specified hazardous materials which results in recommendations of health standards. Medical factors that limit performance are studied to assess and minimize the effects of operational and environmental stressors on health and safety. Another focus of research is objective hearing assessment methods and novel techniques for hearing protection.

Aerospace Medicine and Human Performance

The Aerospace Medicine and Human Performance Program concentrates on the interaction between military personnel and their diverse working environments. Current studies include evaluating various biomedical interventions to enhance performance during sustained and continuous combat operations. Also, current studies parallel research being done by the Navy's warfare technology laboratories. Complex, high-tech Navy defense systems are creating more physically and intellectually demanding work environments and Navy researchers are assessing the medical requirements of these systems in order to provide support for the designers and ultimately to the people who will use them.

Combat Dentistry

The Military Oral Health Research Program focuses on the dental and oral health problems of sailors and Marines and the dental problems of operational deployments. Areas of research cover preventive dentistry, dental caries, periodontal disease, oral microbiology, oral surgery and physiology, and equipment development and evaluation. To maximize dental wellness researchers recommend treatments to Navy dentists that have the highest rate of long-term clinical success and provide monitoring schemes to track the dental wellness of the active duty Navy and Marine Corps personnel.

EXAMPLES OF SCIENTIFIC ACCOMPLISHMENTS IN 1991

The Navy Forward Laboratory During Operations Desert Shield/Desert Storm

The Navy Forward Laboratory (NFL) was an advanced infectious disease diagnostic laboratory which served as a theater-wide reference laboratory during Operations Desert Shield/Desert Storm. The primary responsibilities of the NFL were to:

- Provide laboratory diagnosis of clinical cases of infectious diseases
- Assist in threat assessment of infectious diseases of military importance
- Detect potential biologic warfare (BW) agents
- Render public health assistance

The establishment, organization, and functions of the NFL provide valuable lessons which demonstrate the need for state-of-the-art diagnostic support in regions with a high infectious disease threat and demonstrate the important role of Navy medical research in the support of operational forces.

Establishment of the Laboratory

The deployment of American troops to the Persian Gulf in August 1990 set into motion Naval Medical Research and Development Command (NMRDC) contingency plans to support operational forces. Strategies to combat infectious disease threats in the Middle East had been developed during decades of support of American troops operating in this region by the Naval Medical Research Unit No. 3 (NAMRU-3), located in Cairo, Egypt.

Investigations of local populations and aboard U.S. ships conducted by Navy research personnel and surveillance directed by the Navy Environmental and Preventive Medicine Unit No. 7 (NEPMU-7), Naples, Italy, had demonstrated that infectious diseases, particularly multi-drug resistant bacterial diarrhea, would be a major problem. Also, sandfly fever, dengue, West Nile fever, Crimean-Congo hemorrhagic fever, rickettsial diseases, acute viral hepatitis, and leishmaniasis were known infectious disease hazards in this region. With the initiation of massive troop deployments, NMRDC identified personnel to staff a forwardly deployed laboratory, prepared mobile laboratory equipment and supplies for shipment, and procured quinolone drugs for the treatment of drug-resistant diarrhea. Initial members of the NFL were deployed to the Persian Gulf in August 1990, to provide a preliminary evaluation of infectious disease problems and to determine the usefulness of a comprehensive diagnostic laboratory. The need for additional laboratory support was immediately apparent because of high rates of diarrheal disease among the first groups of deployed ground troops and concerns about a BW attack.

With the approval and critical support of the NAVCENT Surgeon and his staff, the NFL was established in September 1990. The rapid deployment of full diagnostic capabilities was aided by the availability of an abandoned hospital on the northeastern coast of the Arabian peninsula. With the assistance of the NAVCENT Surgeon and the U.S. Medical Battalion, FSSG, Marine Expeditionary Force, laboratory equipment and supplies were installed in the former clinical laboratory of this hospital. In mid-September 1990, the NFL began accepting clinical samples for analysis. Existing hospital facilities provided a number of advantages for the deployment of a sophisticated diagnostic capability using advanced technology, including: a clean,

temperature controlled environment; 110 volt electrical power; running water; a functioning autoclave; and water distiller. Although the NFL's capabilities had been field-tested aboard the cramped quarters of Navy ships and in remote third-world locations and was designed to function in a variety of structures, including tents, the dedicated work space of the abandoned hospital provided an ideal working environment. The NFL was administratively attached to the Naval Logistics Support Command (Medical, N-9), Naval Forces Central Command, and reported directly to the NAVCENT Surgeon. The laboratory was authorized eight personnel which included four Medical Service Corps microbiologists, two Medical Corps infectious disease subspecialists, and two laboratory technicians. The NFL received direct technical support from several Navy facilities: NAMRU-3 in Cairo, Egypt; the Naval Medical Research Institute (NMRI), Bethesda, MD; NEPMU-7, Naples, Italy; and, the Naval Medical Research Institute Detachment, Lima, Peru. Critical support was also provided by the Armed Forces Research Institute of Medical Sciences (AFRIMS), Bangkok, Thailand; U.S. Army Medical Research Institute of Infectious Diseases; Walter Reed Army Institute of Research, Washington DC; the National Institutes of Health, Bethesda, MD; and, the Chemical Biologic Defense Establishment, Porton Down, United Kingdom.

Laboratory Capabilities

The diagnostic capabilities of the NFL were extensive, ranging from classic bacteriological culture methods to antibiotic susceptibility testing, enzyme-immunoassay, fluorescent microscopy, diagnostic DNA probes, and polymerase chain reaction (Table I). Although standard microbiologic laboratory tests were routinely used, numerous specialized, research-level, diagnostic procedures had to be employed in the NFL to provide health care providers with the clinical information needed to effectively treat combat troops in this environment. Examples of specialized techniques which U.S. military research had helped develop included DNA probes and rapid diagnostic assays for identification of potential BW agents from clinical and environmental samples. Although there were several well equipped and staffed clinical laboratories attached to American military medical facilities in-theater, none had been designed to diagnose common diarrheal and respiratory disease pathogens or potential BW agents. As fitted their mission, these laboratories had been intended to support the care of acutely injured troops. Consequently, the NFL provided invaluable support as the only comprehensive reference laboratory for the diagnosis of infectious diseases, especially in the period before hostilities began. Over time, it was possible to transfer some of the NFL's materials and expertise to other laboratories to increase theater diagnostic capabilities. However, some tests, like those used to diagnose travelers' diarrhea and some BW agents, were by necessity research-level endeavors because no standardized, commercial assays were available and experienced research personnel and a highly specialized laboratory were required to obtain accurate and rapid results.

Functions During Operation Desert Shield

During Operation Desert Shield, when massive numbers of troops were being deployed to the Middle East, the NFL primarily supported clinical personnel in the diagnosis and treatment of common infectious disease problems (Tables II and III). Clinical specimens were submitted to the NFL from health care providers from all branches of the military, and NFL personnel routinely visited military medical facilities to collect samples and provide diagnostic support. In addition, NFL personnel aided in the surveillance of infectious disease transmission among deployed troops.

Table 1
NFL Laboratory Technologies

Classic Bacteriological Culture Methods
Antibiotic Susceptibility Testing
Enzyme Immunoassays
Fluorescent Microscopy (FA)
Diagnostic DNA Probes
Polymerase Chain Reaction (PCR)

Table II
Infectious Disease Areas of Special Interest
Diarrheal disease
Febrile Illness
Acute Hepatitis
Acute Upper Respiratory Illness
Detection and Identification of BW Agents

Diarrheal disease was the major infectious disease problem for our troops. Epidemiologic surveys indicated that approximately 60% of ground troops experienced at least one episode of acute diarrheal disease and that 20% of troops sought medical care for diarrheal disease. As anticipated from prior research, a major finding of the laboratory was that the most important causes of acute diarrhea, enterotoxigenic Escherichia coli (ETEC) and Shigella, were resistant to the drugs commonly recommended for the treatment of acute diarrhea. The patterns of antibiotic resistance correlated with clinical observations which indicated that patients with acute diarrhea were not consistently responding to trimethoprim-sulfamethoxazole, tetracycline, or ampicillin. The NFL's determination that diarrheal disease was being caused by drug-resistant bacterial enteropathogens resulted in changes in therapy, with greater and more effective use of quinolone drugs, which helped preserve combat readiness. Acute respiratory disease was another common, although usually not severe, infectious disease problem for troops. The high prevalence of respiratory complaints probably resulted from crowding in buildings tightly constructed to withstand the climate of the Arabian desert and from blowing sand and sand suspended at ground level by the movement of personnel and troops. The NFL evaluated clinical samples from patients with respiratory complaints for a wide range of both bacterial and viral pathogens (Table III).

Table III	
DIAGNOSTIC CAPABILITIES OF THE NFL	
Diarrheal Disease Agents	Viral disease
Enterotoxigenic <u>E. coli</u> (ETEC)	Sandfly Fever (Naples and Sicilian)
<u>Shigella</u> sp.	West Nile Fever
<u>Salmonella</u> sp.	Rift Valley Fever
<u>Vibrio</u> sp.	Crimean-Congo Hemorrhagic Fever
Cryptosporidium	Sindbis
Rotavirus	Dengue
Intestinal Ova and Parasites	Haatan
	Hepatitis A and B
Rickettsial Fevers	Respiratory diseases
Q Fever	<u>Legionella pneumophila</u>
Murine Typhus	<u>Mycoplasma pneumoniae</u>
Mediterranean Spotted Fever	Influenza virus A and B/Parainfluenza 1,2,3
	Respiratory Syncytial Virus (RSV)
	Adenovirus
	<u>Streptococcus</u> sp. and <u>Neisseria</u> sp.
Miscellaneous Agents	
Malaria	
<u>Yersinia pestis</u>	
<u>Francisella tularensis</u>	

It was anticipated that acute febrile disease caused by arboviral infections, particularly sandfly fever, would be a major problem because of the experience of military personnel operating in this region during World War II. However, arboviral infections, except for a few cases of West Nile fever, were not identified in our personnel. Also, two infectious disease problems, malaria and sexually transmitted diseases, which had caused significant morbidity in past wars were very uncommon.

In addition to direct diagnostic support of physicians and corpsman caring for patients with infectious diseases, the NFL assisted preventive medicine personnel in the control of infectious disease transmission. Microbiologic studies conducted by the NFL which indicated that uncooked, regionally-acquired, vegetables were common sources of enteric pathogens helped institute additional preventive measures to eliminate potentially contaminated food items and to ensure effective disinfection measures.

Functions During Operation Desert Storm

During the war with Iraq, the major focus of the laboratory shifted to providing rapid BW diagnostic support. There was less need for diarrheal disease assessment because large outbreaks had ended due to preventive medicine measures; however, sporadic cases of diarrheal disease continued to occur with other enteropathogens, like Norwalk virus, becoming more common causes of illness during the cooler winter period of Operation Desert Storm.

Although no BW attack was ever documented, the NFL provided continuous, active BW surveillance during the war as the on-site BW diagnostic laboratory. These laboratory activities served a very important function by reassuring medical and line personnel about the nature of the threat they were confronting. Fielding of several newly developed BW test systems during the course of the war also permitted extensive evaluation and optimization of these systems.

At the end of the war, the NFL temporarily established a satellite laboratory in Kuwait City to provide infectious disease diagnostic support for the troops who had relocated to Kuwait and Iraq. This laboratory also provided humanitarian assistance to the people of Kuwait by aiding in the assessment of infectious disease outbreaks which resulted from the breakdown of water and sanitation facilities during the war. NFL personnel also assisted Kuwaiti laboratory staff to obtain critically needed laboratory supplies.

Keys to Success of the NFL

There were two principal keys to the early mobilization and deployment of the NFL and the subsequent accomplishments of the laboratory. One, the prior overseas experience, particularly in the Middle East, by Navy medical research personnel was crucial to the success of the NFL. Most of the personnel assigned to the laboratory had conducted infectious disease research outside of the U.S. and at NAMRU-3 in Cairo, Egypt. Therefore, when Operation Desert Shield began, U.S. Navy research personnel knew the major infectious disease threats in this region and what was needed to provide diagnostic support to clinical personnel. In addition, the staff of the NFL was able to quickly and effectively operate in this region because of their understanding of the people and culture of the Middle East.

The other major key to success was the early recognition and acceptance of the NFL by all echelons of command. In particular, the support of BUMED 02 and the NAVCENT Surgeon and his staff was critical in establishing the laboratory and providing administrative assistance. Other keys to success included: extensive personnel and technical resources on-station in the Middle East at the Navy research unit in Cairo, Egypt, and NEPMU-7; assistance from U.S. Army and civilian research facilities; mobility in theater; and, flexibility in staffing to respond to changing disease threats.

Conclusion

The Navy Forward Laboratory demonstrated the benefits of a state-of-the-art, comprehensive, on-site, diagnostic laboratory capability when large numbers of troops are deployed to regions with a high risk of infectious disease transmission. In future mass deployments of troops to tropical and developing countries, a laboratory like the NFL should be considered a necessity for the optimal care of patients with infectious diseases. The success of the NFL also validated the importance of U.S. military research laboratories for disease threat assessment, product development, and training of uniformed medical scientists who can be deployed to areas of conflict.

NEW LABELING TECHNIQUE FOR STEM CELL REPLACEMENT THERAPY

Stem cell therapy is the main stay of successful bone marrow transplantation. However, it has been difficult to grow stem cells in culture and to prove that functional blood cells collected from patients actually derived from therapeutically infused stem cells. Researchers from the Immune Cell Biology Department at the Naval Medical Research Institute, Bethesda, MD, developed a new method that combines the use of two bone marrow growth factors, Stem Cell Factor and G-CSF (granulocyte colony stimulating factor), and interleukin-3, a cytokine, to stimulate the division of isolated stem cells from rhesus monkeys. Cell labeling was done with a retrovirus containing a gene for resistance to the antibiotic, neomycin. Studies showed that the lethally irradiated rhesus monkeys recovered with culture grown labeled stem cells (CD34+ cells). The normal levels of new red blood cells, white blood cells and platelets occurred as early as two weeks post-irradiation/ therapeutic transfusion with CD34+ cells. All cells were derived from CD34+ cells because all white blood cells were resistant to neomycin. Human stem cell replacement therapy trials will commence shortly at NIH. This therapy has the potential to save the lives of countless military casualties if future conflicts include the use of chemical or radiological weapons. In the civilian sector, this new technique for manipulating stem cells will help advance blood cell reconstitution therapies for cancer patients. The novel method of growing stem cells in culture will allow the therapeutic replacement of the patient's own stem cells, decreasing the risk of transplantation rejection as well as the risk of infection from non-self stem cell donors.

ASSESSMENT OF HIGH INTENSITY LASER EXPOSURES

NMRDC sponsored researchers at the Naval Air Development Center, Warminster, PA, designed and fabricated an enlarged (X14), scaled artificial eye to assess the effects of high intensity glare on visual performance. The artificial eye which is interfaced with a high resolution color image processor, is comprised of a dual lens system, variable aperture, and scaled anterior and posterior chambers. The artificial eye allows researchers to vary, with known degrees of freedom, parameters of the human eye such as the refractive power of the cornea and lens, lenticular and corneal transmittance, pupil size, as well as the fluids filling the chambers. Current research is calibrating and validating the artificial eye against human data over a safe range of glare intensities. Studies to date demonstrate that the glare spread function in the artificial eye closely approximates the human glare spread function observed with emmetropic and ametropic observers. Future studies will assess the transient effects associated with damaging glare intensities in addition to evaluating high risk agile laser eye protection.

TRYPSIN DETECTION AND QUANTITATION USING THE BAPNA-IN-AGAR-GEL

Researchers at the Naval Dental Research Institute, Great Lakes, MI, developed a quantitative assay for measuring trypsin and trypsin-like enzyme activities using N- α -benzoyl-DL-arginine-p-nitroanilide (BAPNA). Both cultured oral microorganisms and human subgingival plaque can be screened and evaluated for trypsin activity. Thus far, use of the BAPNA-in-Agar system has revealed a positive reaction by trypsin and several Gram-negative oral microorganisms associated with adult periodontal diseases. Applied clinically, the test will help identify patients undergoing changes in disease status and will be useful in monitoring the success of therapeutic measures. Exploratory tests with subgingival plaque samples indicate the BAPNA-in-Agar system can serve as a rapid, simple method for detecting microbial trypsin-like activity.

FDA LICENSURE SOUGHT FOR EXTENDED STORAGE OF SEVERAL FROZEN BLOOD PRODUCTS

Blood products for the resuscitation of severely injured combat casualties are essential for emergency medical care. The logistical difficulties of providing fresh blood products in the initial days to weeks of a military conflict are overwhelming. The alternative to fresh blood products is the appropriate storage and utilization of frozen blood products. NMRDC funded researchers at the Naval Blood Research Laboratory, Boston University School of Medicine, are working with the Blood Bank at the National Naval Medical Center, Bethesda, MD to prepare data for FDA licensure to extend the storage of several frozen blood products. This includes data to support extended storage of fresh frozen plasma and cryoprecipitate at -80°C for at least 3 years (current FDA regulations allow for the storage of fresh frozen plasma and cryoprecipitate for one year at -20°C); storage of frozen single-donor apheresed platelets with 6% DMSO at -80°C for two years (the FDA has approved DMSO as a cryoprotectant for platelets); expanded post-thaw storage of deglycerolized red blood cells in a sodium chloride-glucose solution at 4°C for 7 days and in Optisol, ADSOL or Nutricel solutions at 4°C for 14 days. Another work effort that is part of the above projects is the development of a post thaw red blood cell wash system which is completely closed to the environment. Also, in 1992 the Naval Blood Research Laboratory will begin to assay solutions made by the Resuscitation Fluid Production System (REFLUPS) and to provide data to support FDA licensure.

NMRI'S ENTERIC DISEASE PROGRAM TRANSITIONS PROTOTYPE CAMPYLOBACTER VACCINE INTO ADVANCED STAGES OF DEVELOPMENT

Campylobacter jejuni is recognized worldwide as a major bacterial cause of enteric disease and is the second most common cause of bacterial diarrheas in the developing world, accounting for an estimated 400,000,000 cases annually. In the U.S. campylobacter isolations are more frequent than Salmonella and Shigella isolations combined. Researchers in the Campylobacter Research Program at the Naval Medical Research Institute (NMRI), Bethesda, MD, have developed two classes of oral vaccine candidates. One is a stable, live flagellar mutant which immunizes against wild type organisms without colonizing long enough to initiate disease. The second and most advanced, is a killed whole cell preparation with the immunogenicity enhanced by a prototype oral adjuvant. The adjuvant used in this vaccine candidate is also a Navy (ONR) developed product and its utilization in this first generation campylobacter vaccine represents a new concept in enteric vaccine development. In a variety of animal models, the killed whole cell vaccine has no significant side-effects, is highly immunogenic and capable of stimulating protective levels of immunity comparable to that achieved following infection with live organisms. This vaccine may be available for phase I and II safety and immunogenicity testing in human volunteers during early FY93.

RESEARCHERS DEVELOPING FREQUENCY AGILE LASER EYE PROTECTION FOR AIRCREW PERSONNEL

Current laser eye protection protects against one, or several discrete wavelengths of laser radiation. Lasers presently under development will have the capability for either preset or frequency adjustment during operation. These "agile" lasers require a conceptually different type of eye protection. In 1986 a multi-service, multi-disciplinary team of experts brought together by the Vision Laboratory of the Naval Air Development Center, Warminster, PA, and funded in part by NMRDC, began investigating various nonlinear optical materials. This group has been working to develop new technologies to ensure that eyes will not be damaged and vision will not be disrupted when aircrew personnel are irradiated by a frequency agile laser. To be effective the new eye protection system must respond across the visible spectrum, activate in less than a nanosecond, remain in the closed state until cessation of radiation, have a minimum unactivated state transmittance of 75%, and be able to withstand high peak incident powers. Presently, three technology demonstrators are being fabricated based on liquid suspension and liquid crystal technologies. Recent field tests conclusively demonstrated that the liquid suspension cell functions well in the presence of atmospheric scintillation which can cause significant restructuring of the power profile of the incident laser. Testing is

underway to begin transition of the most promising technologies in addition to pursuing five additional technologies.

ENDOTOXIN-BINDING PROTEIN REDUCES THE TOXICITY OF ENDOTOXIN

Gram-negative sepsis remains a serious clinical problem with a high mortality rate in combat casualties and peace-time health care. Endotoxin is considered a major contributor to shock resulting as a complication of Gram-negative infections. It has been suggested that endotoxin-binding proteins (EBP), like antibodies, can neutralize the toxic effects of endotoxin. Horse-shore crabs and similar primitive species have endotoxin neutralizing materials as a constituent of their plasma components. Researchers in the Septic Shock Research Program at the Naval Medical Research Institute, Bethesda, MD and Navy sponsored scientists at the Associates of Cape Cod, Woods Hole, MA are evaluating the ability of purified and recombinant forms of EBP to reduce the toxicity of endotoxin. The results of both *in vitro* and *in vivo* studies demonstrate the EBP complexes with endotoxin and the resulting mixture greatly reduces toxicity. Further, the recombinant form of EBP appears to have improved properties over the naturally occurring material.

COMPUTER ASSISTED MEDICAL DIAGNOSTICS AND INFORMATION

For several years NMRDC has worked with various Naval laboratories and operational activities to expand the concepts and capabilities of the Computer Assisted Medical Diagnostics, Patient Management, and Medical Information System. The Naval Submarine Medical Research Laboratory in Groton, CT, the Naval Health Research Center, San Diego, CA and several contractors, produced the initial configurations and components of a multimedia-based computer medical system. The multimedia capabilities will enhance information presentation and availability by providing a user friendly interface utilizing real photographic images, video displays, and CD-ROM inputs. The system will provide independent duty hospital corpsmen and others with differential diagnostic consultations and recommendations based on available patient history, signs, symptoms and laboratory values. The system will include several diagnostic modules based on expert systems and neural networks interfaced together; a broad medical and Naval manual/instruction library; office management and inventory routines; medical mission planning exercises; the Naval Health Sciences, Education, and Training Command CAMIS education tool; and other advanced research computer concepts and applications. The overall system is being configured in the research and development phase to operate on an advanced 386/486 33 MHz portable PC with high resolution monitor, large capacity hard drive, and CD-ROM laser disc players. Aspects of the system will be available through the Navy-wide SAMMS medical record system as components become validated and available.

COLD INDUCED AMNESIA

Exposure to moderate or severe cold temperatures is known to cause an impairment of learning and memory, which is termed cold-induced amnesia. This impediment poses a serious threat to the effectiveness of cold weather operations where Navy personnel must maintain effective cognitive performance while doing increasingly complex tasks with high technology equipment. Investigators in the Thermal Stress Program at the Naval Medical Research Institute, Bethesda, MD, are studying the mechanisms by which cold exposure affects memory. They are examining subtle cold-induced changes in brain temperature and neurotransmitter and neurohormone functions *in vivo*, in brain regions whose physiological integrity is known to be critical for normal memory function. In these experiments, observed neurophysiological changes are correlated with alterations in working memory and behavioral performance. Information on the mechanisms by which cold exposure disrupts normal memory will aid in the development of technologies for the treatment and prevention of cold-induced performance decrements and enhance military effectiveness in cold operational environments. (Note: On June 19, 1991, LT Steve Ahlers, Dr. John Thomas, and Donna Berkey of the Naval Medical Research Institute received the Navy's Best FY 1990 Independent Research Paper Award for their manuscript "Hippocampal and body temperature changes in rats during delayed matching-to-sample performance in a cold environment." The award was presented by the Director of the Office of Naval Research at the 4th annual IR/IED Symposium. The paper had previously been selected as the Naval Medical Research and Development Command's top independent research paper for FY 1990.)

NMRI/TD SUPPORTS OPERATION DESERT STORM

Early this year, in response to inquiries from the Navy and Marine Corps the Naval Medical Research Institute Toxicology Detachment (NMRI/TD) at Wright-Patterson, AFB, OH, and the Navy Environmental Health Center, Norfolk, VA, organized a workshop highlighting the hazards of major military operations in and around crude oil and oil refineries. Individuals who had participated in oil spill clean-up operations and oil industry experts from API, BP Oil, Exxon, Mobile Oil and Texaco with experience in oil fields and oil refinery operations in the Middle East attended the workshop. The group developed recommendations for the International Armed Forces based on their collective toxicological knowledge, occupational medicine and hazardous operations experience, and environmental aging data. They also developed guidance for treatment of Desert Storm personnel contaminated by crude oil or exposed to smoke from burning oil wells or oil refineries. A report was published describing the nature of the oil production and processing hazards in the Persian Gulf region and provided information on toxicological effects, specific hazards, hazard prevention and alleviation as well as recommendations concerning the effects of oil contamination on patient care and on the disease nonbattle injury load on the casualty care system. The report specifically addressed issues on maintaining shipboard potable water while sailing in oil-contaminated waters.

SURFACTANT REPLACEMENT IN PATIENTS WITH ARDS

Adult Respiratory Distress Syndrome (ARDS) is a serious respiratory complication of trauma for which there is currently no adequate therapy. The collapse of pulmonary alveoli and the destruction of lung tissue prevents oxygenation of blood, and severe hypoxemia rapidly leads to death. ARDS was a significant complication of severe combat trauma during the Vietnam War and continues to threaten severely injured individuals. State-of-the-art biochemical and genetic engineering efforts have produced a potential therapeutic solution for this serious combat trauma-related complication. Navy funded researchers at the Scripps Clinic and Research Foundation, La Jolla, CA, have successfully sequenced the human lung surfactant molecule. This work has resulted in the genetic engineering of surfactant peptides that can replace the natural surfactant molecules lost during the inflammatory destruction of lung tissue. This unique therapeutic approach for the prevention of ARDS will reduce the very high mortality (60-90%).

RESEARCHERS STUDY BIOLOGICAL EFFECTS OF LOCALLY ADMINISTERED CYTOKINES WITH UNIQUE CYTOKINE-AGAROSE BLOCK MODEL

Cytokines, a diverse group of secreted cellular molecules (cytokines are also called lymphokines, monokines, interleukins and interferons), are produced by a wide variety of cells. Cytokines have been used clinically to enhance the immune competence of individuals against certain tumors and infections but treatment with these immune modulators is restricted due to their many adverse side effects. In order to reach effective local concentrations, the systemic dose required approaches toxic levels. Researchers in the Enteric Disease Program, at the Naval Medical Research Institute, Bethesda, MD, developed a unique *in vivo* murine model for the local delivery of cytokines which mimics the direct production of cytokines at an infection- or wound- site. This model uses implanted agarose blocks to administer cytokines to specific tissues *in vivo*. Cells attracted to the blocks are harvested and cultured *in vitro* so researchers can study the kinetics and phenotypes of cells (neutrophils, lymphocytes, and macrophages) attracted by the cytokines as well as the functions (phagocytosis and cytokine production) of these cells. The cytokine-agarose block model provides a new capability for studying cytokine control of local immune responses that are important for the elimination of microbial infections, the control of tumor growth and the enhancement of wound repair.

EVALUATION OF COGNITIVE PERFORMANCE FOLLOWING SUBSTANCE ABUSE

Various research studies have shown that alcohol abuse impairs an individual's ability to perform tasks in general and has specific detrimental effects on cognitive performance. Alcoholics who remain abstinent will evidence substantial cognitive recovery, however, the question remains as to whether cognitive capacity returns to pre-abuse levels. Although alcoholics treated by the Navy are given formal treatment at Navy Alcohol Rehabilitation Centers (NARCs) and are encouraged to abstain from alcohol, no testing is done to ensure they are cognitively fit to return to duty. Researchers in the Cognitive Performance and Psychophysiology Department, Naval Health Research Center (NHRC), San Diego, CA, are currently evaluating the use of event-related brain potentials (ERPs) as a tool for measuring various aspects of cognitive performance. Using ERP component parameters as a measure enables the functional aspects of cognition (filtering, discrimination, memory encoding, memory retrieval, and decision making) to be observed. The optimal performance of many Navy jobs requires that these abilities be intact. A one-year longitudinal study has been conducted on alcoholics at NARC, San Diego, in order to identify changes in ERPs that may occur during rehabilitation. The results of this research may lead to an objective method for tracking cognitive rehabilitation.

PROGRESS TOWARD A MALARIA VACCINE

Malaria, a serious parasitic disease spread by Anopheline mosquitoes, kills more than one million of the 270 million people infected each year and is a major threat to deployed troops in endemic areas. The single-cell parasite responsible has a complex life cycle that makes it a difficult vaccine target. Since the parasite changes during its life cycle, vaccines that work against one stage may not work against others. The ideal vaccine would target every stage of the malaria infection. In a major step toward development of a comprehensive human vaccine, researchers in the Malaria Program at the Naval Medical Research Institute (NMRI), Bethesda, MD, have successfully inoculated laboratory mice with a dual-action vaccine that targets two key proteins on the malaria parasite. The two proteins are the circumsporozoite (CS) protein and sporozoite surface protein 2 (SSP2), which was recently discovered at NMRI. NMRI researchers believe that the vaccine stimulates cytotoxic T cells to attack the parasites in the liver; antibodies produced against the CS and SSP2 proteins also may be inhibiting sporozoites. The mouse vaccine is not directly applicable to humans, but researchers believe a vaccine that targets these same proteins on the human malaria parasites would be equally effective. They are currently working on identifying the human malaria parasite counterpart of SSP2 and on developing effective ways of delivery to humans.

COMMAND STATUS

Establishment

The Naval Medical Research and Development Command was established on 1 July 1974, in accordance with OPNAVNOTE 5450 of 7 June 1974, to provide for the management of Navy Medical Department research, development, test and evaluation programs under the purview of the Navy Medical Department.

Mission

To plan, manage, and direct research, development, test, and evaluation (RDT&E) programs concerning the health, safety, and readiness of Navy and Marine Corps personnel in the effective performance of peace time and contingency missions, and to perform such other functions or tasks as directed in support of Fleet readiness.

Command Relationships

The Navy Medical Research and Development Command is under the command of the Bureau of Medicine and Surgery and receives direct support from the National Naval Medical Center, Bethesda, MD. Naval Medical Research and Development Command is subject to the area coordination of the Commandant, Naval District, Washington, DC.

Echelon of Command	
1.	Chief of Naval Operations
2.	Chief, Bureau of Medicine and Surgery
3.	Commanding Officer, Naval Medical Research and Development Command, Bethesda, Maryland
Host:	National Naval Medical Center, Bethesda, Maryland
Area	
Coordinator:	Commandant, Naval District Washington

Component Activities

The following Echelon 4 and 5 Naval activities are assigned to the Naval Medical Research and Development Command for operation:

Naval Aerospace Medical Research Laboratory, Pensacola, FL

Naval Biodynamics Laboratory, New Orleans, LA

Naval Dental Research Institute, Great Lakes, IL

Naval Health Research Center, San Diego, CA

Naval Medical Research Institute, Bethesda, MD

Naval Medical Research Institute Detachment, Lima, Peru

Naval Medical Research Institute Toxicology Detachment, Wright-Patterson Air Force Base, OH

Naval Submarine Medical Research Laboratory, Groton, CT

U.S. Naval Medical Research Unit No. 2, Manila, Republic of the Philippines

U.S. Naval Medical Research Unit No. 2 Detachment, Jakarta, Indonesia

U.S. Naval Medical Research Unit No. 3, Cairo, Arab Republic of Egypt

Functions

As directed by the Chief, Bureau of Medicine and Surgery:

- a. Command the Navy Medical Department research and development laboratories and activities and support their RDT&E missions by providing personnel, funds, and facilities.
- b. Directs, plans, programs, budgets, and documents the Navy Medical Department RDT&E efforts in response to Navy and Marine Corps RDT&E requirements.
- c. Determines the requirements for and recommends the procurement, training, assignment and distribution of research and development personnel.
- d. Performs staff functions for and advises the Navy Surgeon General on RDT&E matters.
- e. Provides professional medical and dental guidance in the planning of Navy and Marine Corps weapons systems, life support systems, and personnel protection.
- f. Assigned, executes Medical Department responsibilities relating to the use and protection of human subjects utilized in RDT&E studies conducted by, within, or for the Department of the Navy.
- g. Provides veterinary animal use support to the Navy Medical Department as required.
- h. Coordinates research efforts with other Navy commands and offices, other government agencies, civilian organizations, and foreign governments.
- i. Provides and undertakes such other functions as may be authorized or directed by higher authority.

COMMAND STAFFING

Manpower Authorization			
Officer	Enlisted	Civilian	Total
14	3	16	33
Military Staffing			
Officers	MC/2100	MSC/2300	DC/2300
Captains/06	2	3	
Commanders/05	4	3	1
Lt Commanders/04	0	3	
Lieutenants/03	0	1	
U.S. Army Veterinary			1
Total	6	10	1
Enlisted			
E-9	1		
E-5	1		
E-4	1		
E-2	1		
Total	4		
Grand Total Military Personnel			22

PERSONAL AWARDS AND PROMOTIONS

Civilian Personnel

Outstanding Performance Appraisals

Ms. J. Hoover	Mr. Alvin Edwards	Ms. Mary Alice Tartier
Ms. Maureen Young	Ms. Christine S. Eisemann	Mr. Kip Johnson
Ms. Vicky Crowder	Mr. Philip Cheng	Ms. Teresa Coppolino
Ms. Lisa Morgan	Ms. Joan Speake-Ponow	Mr. A. David Spevack
Ms. Renee Singleton	Ms. Judith Hartig	Ms. Deborah Pilkerton

Awarded Quality Step Increase

Ms. Judith Hartig	Ms. Deborah Pilkerton
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Awarded Cash Awards

Ms. J. Hoover

Mr. Alvin Edwards

Ms. Mary Alice Tartler

Ms. Maureen Young

Ms. Christine S. Eisemann

Mr. Kip Johnson

Ms. Vicky Crowder

Mr. Philip Cheng

Ms. Teresa Coppolino

Ms. Lisa Morgan

Ms. Joan Speake-Ponow

Mr. A. David Spevack

Ms. Renee Singleton

Military Personnel Awards

CAPT J. N. Woody, MC, USN

Legion of Merit

CDR F. Paleologo, MC, USN

Navy Commendation Medal

CAPT T. Jones, MSC, USN

Meritorious Service Medal

COL R. Hall, VC, USA

Legion of Merit

CAPT A. Melaragno, MC, USN

Meritorious Service Medal

CAPT A. Melaragno, MC, USN

Navy Commendation Medal

MILITARY PROMOTIONS

01 Feb 91

LCDR James Beddard is promoted to Commander

SIGNIFICANT EVENTS IN 1991

Jan	NAVMEDRSCHDEVCOM establishes the Strategic Planning Advisory Group
9 Feb	NAVMEDRSCHDEVCOM personnel departs in support of Desert Storm
15 Feb	NAVMEDRSCHDEVCOM obtains approval from the Chief, Naval Operations to relocate Naval Medical Research Unit No 2 from Manila, Republic of the Philippines to Jakarta, Indonesia due to security considerations for the personnel
28 Feb	Revised Naval Medical Research and Development Command Organizational Manual becomes official
10 Mar	Site Visit and Command Inspection of Naval Health Research Center, San Diego, CA
04 Apr	ENS J. Scroggs, MSC, USNR, reported for duty
15 Apr	Commanding Officer's Strategic Planning Retreat
01 May	LT T. Dowty, MSC, USN, reported for duty
15 May	CDR C. Schlagel, MSC, USN, reported for duty
30 May	CAPT T. Jones, MSC, USN departed on PCS
06 Jun	Naval Medical Research and Development Command, Change of Command. CAPT Edward T. Flynn, Jr., MC, USN, relieved CAPT James N. Woody, MC, USN, as Commanding Officer The Change of Command was held in conjunction with CAPT Woody's retirement at the National Naval Medical Center
06 Jun	CAPT J. N. Woody, MC, USN, Commanding Officer retired from active duty
06 Jun	CAPT E. T. Flynn, MC, USN, assumed Command of NAVMEDRSCHDEVCOM
19 Jun	NMRDC Scientists participated at the fourth Annual Navy Independent Exploratory Development Symposium, at Johns Hopkins University
24 Jun	NAVMEDRSCHDEVCOM Annual Finance Conference
27 Jun	CDR J. Singer, MSC, USN reported for duty
09 Jul	Commanding Officer, attends Naval Medical Research Institute Detachment's, Change of Command
14 Jul	CAPT A. J. Melaragno, MC, USN departed the Command on orders
10 Aug	Commanding Officer, attends Naval Aerospace Medical Research Laboratory Change of Command
23 Aug	CDR J. Kelly, DC, USN reported for duty
30 Aug	LTC G. Halsey, VC, USA reported for duty
17 Sep	NAVMEDRSCHDEVCOM Strategic Planning Conference
18 Sep	NAVMEDRSCHDEVCOM Strategic Planning Conference
19 Sep	NAVMEDRSCHDEVCOM Strategic Planning Conference
20 Sep	NAVMEDRSCHDEVCOM Strategic Planning Conference
30 Sep	ENS J. Scroggs, MSC, USNR, departed the command on PCS orders
06 Oct	Site Visit and Command Inspection of Naval Submarine Medical Research Laboratory, Groton, CT

30 Oct	CDR L. Yaffe, MC, USN reported aboard for duty
21 Nov	LT J. McQuade, MSC, USN departed the Command on PCS orders
07 Dec	NAVMEDRSCDEVCOM hosted the Army/Navy Infectious Disease Overseas Commanders Conference, at the National Naval Medical Center, Bethesda, MD. The conference lasted 2 days
09 Dec	NAVMEDRSCDEVCOM Strategic Planning Meeting was held at the Command

COMMAND FUNDED TRAVEL FOR 1991

Date	Destination	Purpose
13 Jan	Pensacola, FL	CAPT Jones attended TARP meeting
14 Jan	San Diego, CA	CAPT Jones attended LCAC Medical Standards Conference
28 Jan	Groton, CT	CDR Kent visited NAVSUBMEDRSCHLAB to conduct site visit and attend program review meeting
9 Feb	San Diego, CA	CAPT Jones visited NAVHLTHRSCHCEN to conduct program review
12 Feb	San Diego, CA	CAPT Melaragno, to attend Basic Research Review Meeting, and visit Marrowteck and Scripps Clinic for review course
24 Feb	London, UK	CAPT Jones attended NATO/AGARD Group 15 meeting
24 Feb	San Diego, CA	COL Hall conducted CIP on-site inspection of animal facility
1 Mar	Tampa, FL	CAPT Woody visited USCENCOM and SOCOM
10 Mar	San Diego, CA	Site visit and Command Inspection of Naval Health Research Center
11 Mar	San Diego, CA	CDR Beddard visited NAVHLTHRSCHCEN to attend Small Business Innovation Research Review meeting
1 Apr	San Diego, CA	Ms. C. Eismann attended SPAWAR Information Exchange Conference
4 Apr	Los Angeles, CA	CAPT Curran attended Contract Progress Review meeting
8 Apr	Dayton, OH	CDR Beddard attended the Conference on Chemical Risks
14 Apr	Baltimore, MD	NAVMEDRSCHDEVCOM Strategic Planning Retreat Conference
6 May	Norfolk, VA	CDR Beddard visited the Naval Environmental Health Center for meeting on Reproductive Hazards in the work place
16 May	San Francisco, CA	COL Hall conducted CIP on-site inspection of animal facility
21 May	San Diego, CA	CAPT Lewis/CAPT Curran attended Conference on Soft-Tissue Musculo Skeletal Injury Research
28 May	Tampa, FL	CAPT Woody visited USCENCOM
9 Jun	San Francisco, CA	CAPT Lewis attended the Trauma and Blood Review
10 Jun	Toronto, Canada	CDR Kent attended the ABCA-10 Conference
8 Jul	Great Lakes, IL	Mr. Johnson visited NAVDENTALRSCHINSTITUTE to conduct Annual Occupational Safety and Health Management Evaluation

16 Jul	Boston, MA	CAPT Melaragno/CDR Carter attended meeting for Navy's Blood Research Program
19 Jul	San Diego, CA	CDR Kent attended Annual Scientific Meeting of Undersea and Hyperbaric Medical Society
24 Jul	Pensacola, FL	CDR Beddard visited NAVAEROMEDRSCHLAB to conduct EMR program review
6 Sep	Cairo, Egypt	CDR Schlager escorted NRC review panel
11 Sep	Groton, CT	CAPT Curran and CDR Beddard visited NAVSUBMEDRSCHLAB to conduct program review
22 Sep	Tokyo, Japan	CDR Kent attended Japanese Maritime Self Defense Force and NOAA JAMSTEC conferences
06 Oct	Groton, CT	Site visit and Command Inspection of Naval Submarine Research Laboratory
8 Oct	San Diego, CA	CAPT Lewis attended the 43rd Postgraduate Assembly
9 Oct	Parsons Island	Commanding Officer attended the Armed Forces Epidemiology Board Annual Fall meeting
15 Oct	Boston, MA	CDR Carter visited Naval Blood Research Laboratory to conduct a progress review of NAVMEDRSCHDEVCOM funded research efforts
18 Oct	Rochester, NY	LTC Heisey attended the Association of Primate Veterinarians Workshop
21 Oct	Buffalo, NY	LTC Heisey attended Laboratory Science Annual meeting.
4 Nov	Panama City, FL	CDR Kent attended 4th Annual Navy Special Warfare R&D Conference
13 Nov	San Francisco, CA	CAPT Lewis to participate in review of US Army's Military Trauma and Blood Research
18 Nov	San Antonio, TX	CDR Paleologo attended and made presentation the at Annual AMSUS meeting
21 Nov	Chapel Hill, NC	CAPT Lewis, to conduct site visit at University of North Carolina
29 Nov	Jakarta, ID	LCDR Puksta visited NAVMEDRSCHUTWO to provide assist site visit
1 Dec	Boston, MA	CDR Oberst to attend Annual Meeting of the American Society of Tropical Medicine and Hygiene
12 Dec	Providence, RI	CDR Carter attended Coast Guard/NAVMEDRSCHDEVCOM review briefing
15 Dec	San Diego, CA	CAPT Curran visited NAVHLTHRSCHCENTo conduct program review

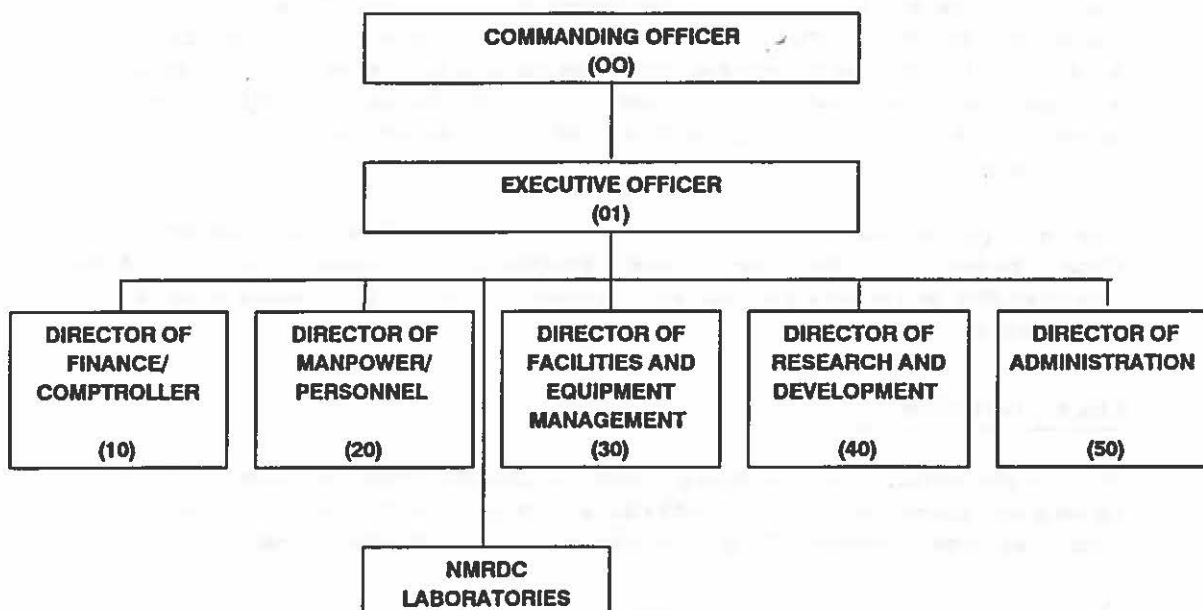
EDUCATION AND TRAINING

11 Mar	CAPT Woody, attended mandatory Pre-Retirement Course at FT Myer, VA
22 Mar	CAPT Jones, attended Command LMET Course, Leesburg, VA
14 Apr	Mr. P. Cheng Attended CECOS Special Projects Seminar in Tampa, FL
4 May	Ms. T. Coppolino, Introduction to Microcomputers and MS-DOS
6 May	CAPT Jones attended PCO Shore Station Management Course
6 Jun	HA R. Crochet, USN, Introduction to Microcomputers and MS-DOS
5 Jun	HA R. Crochet, USN, Introduction to Wordperfect
14 Jul	Ms. Mary A. Tartler attended the 22nd National Training Conference for Federally Employed Women
8 Sep	HMCN K. Pedersen, USN Micro-91 computer seminar, Norfolk Virginia
20 Sep	Ms. R. Singleton, Administrative Assistant, Development Training, Baltimore, MD
8 Oct	LTC G. Heisey, VC, USA, Attended the NABR Conference at Washington D.C.
21 Nov	CAPT R. Gaugler, MSC, USN attended "The Role and Responsibilities of Healthcare Leaders in Navy Medicine", at Naval School of Health Sciences
21 Nov	LCDR M. Leorza, MSC, USN attended "The Role and Responsibilities of Healthcare Leaders in Navy Medicine", at Naval School of Health Sciences

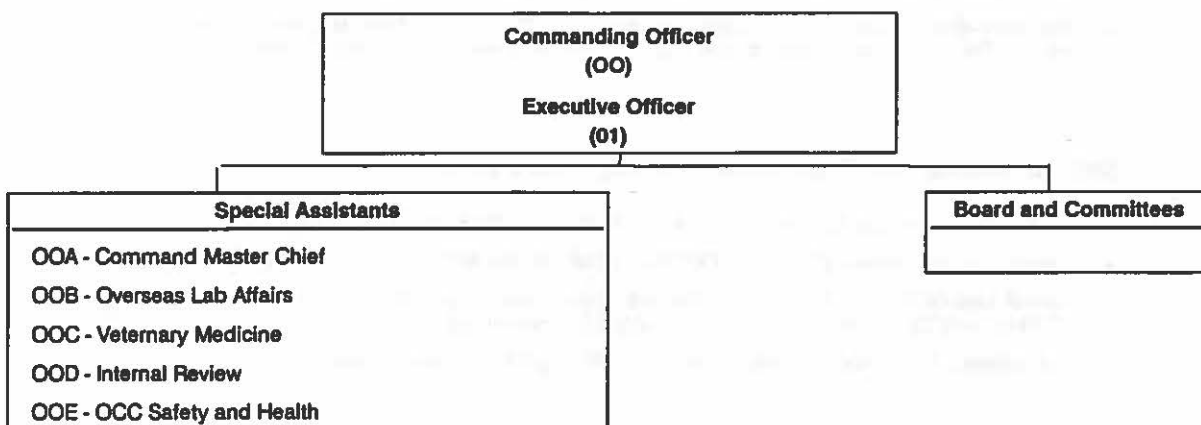
IMPORTANT VISITORS

20 May	RADM R. Marlor, MC, USN, BUMED-02
21 May	RADM Dunleavy, USN
05 Jun	RADM R. Ridenour, MC, USN, USMC Medical Officer
06 Jun	RADM Robert W. Higgins, MC, USN, Deputy Surgeon General
06 Jun	RADM Joseph S. Cassells, MC, USN, Retired
17 Jun	RADM Hiromichi Oiwa, VIP Visit, Japanese Navy
24 Jun	RADM R. Marlor, MC, USN, BUMED-02
28 Jun	RADM Proehl, German Surgeon General
16 Jun	Commanding Officer, National Dental Center

NAVAL MEDICAL RESEARCH AND DEVELOPMENT COMMAND ORGANIZATION



OFFICE OF THE COMMANDING OFFICER



The Office of the Commanding Officer includes the Commanding Officer, the Executive Officer, Special Assistants and support personnel.

The Commanding Officer (00)

The Commanding Officer is tasked with the responsibility for effective and economical organization and management of Medical Department research, development, test and evaluation (RDT&E) programs. The Commanding Officer has authority to fulfill the duties and obligations prescribed in current manuals, orders, regulations and directives. The Commanding Officer, at his discretion, and when not contrary to existing laws or regulations, may delegate authority to subordinates to execute assigned tasks. This delegation of authority will in no way relieve the Commanding Officer of the responsibility for the safety, well-being and effectiveness of the Command.

In the temporary absence of the Commanding Officer, the Executive Officer will act as the Commanding Officer. In the temporary absence of both the Commanding Officer and the Executive Officer, the Navy Medical Department officer next in rank and seniority, who is permanently assigned to the Command, will act as the Commanding Officer.

The Executive Officer (01)

The primary function of the Executive Officer is to assist and advise the Commanding Officer in all matters that pertain to the mission of the Command. All orders issued by the Executive Officer shall be regarded as proceeding from the Commanding Officer and shall govern all persons within the Command.

Special Assistants to the Commanding Officer

Command Master Chief (OOA)

- Assists and advises the Commanding Officer on all enlisted personnel matters.
- Assists and advises Echelon IV Commanding Officers and Echelon V Officers-In-Charge on enlisted personnel matters with emphasis on enlisted personnel development, distribution and utilization throughout the spectrum of RDT&E mission execution.
- Coordinates with Command Master/ Senior Chiefs of the Echelon IV and Echelon V activities to ensure that morale, personnel services, and welfare are maintained at the highest possible level.
- Maintains close liaison and coordination with the Force Master Chief of the Navy Medical Department and with the Enlisted Personnel Distribution Branch of the Navy Military Personnel Command.

Special Assistant for Overseas Laboratory Affairs (OOB)

- Serves as the principal Command point-of-contact for OCONUS field activities.
- Advises the Commanding Officer on OCONUS administrative and programmatic issues.
- Coordinates OCONUS laboratory activities with appropriate State Department, Department of Defense, Chief of Naval Operations, and Naval Medical Command officials.
- Is a collateral duty function of the Research Area Manager for Infectious Diseases.

Special Assistant for Veterinary Medicine (OOC)

- Assists and advises the Commanding Officer on veterinary medicine and animal care and use matters.
- Assists and advises Echelon IV Commanding Officers and Echelon V Officers-In-Charge on effective animal care and use programs.
- Conducts Command Inspection visits to ascertain compliance with all Federal, DoD, and Navy animal care and use regulations and guidelines.
- Maintains liaison with Office of the Chief, U.S. Army Veterinary Corps to achieve adequate veterinary personnel staffing.

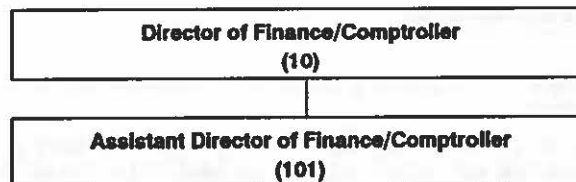
Special Assistant for Internal Review (OOD)

- Manages and directs the Internal Review and Internal Control Programs of the headquarters Command and field activities, and provides advice and assistance to the Commanding Officer on all matters pertaining to those programs.
- Conducts internal reviews on programs/functions with potential for waste, fraud, and abuse.
- Evaluates the effectiveness of field activity Internal Control and Internal Review Programs, develops recommendations in response to noted program deficiencies and ensures that corrective action is implemented consistent with the intent of stated recommendations.
- Coordinates and tracks field activity responses to Command Inspection Team recommendations and monitors compliance with all external review and inspection processes of NMRDC field activities.
- Advises Echelon IV Commanding Officers and Echelon V Officers-in-Charge on matters pertaining to the Internal Review and Internal Control Programs.

Special Assistant for Occupational Safety and Health (OOE)

- Advises the Commanding Officer in his oversight responsibilities to ensure that Echelon IV and V laboratories officially comply with Navy Occupational Safety and Health (NAVOSH) deficiency abatement programs.
- Advises Echelon IV Commanding Officers and Echelon V Officer-In-Charge on matters pertaining to Navy Occupational Safety and Health (NAVOSH).
- Reviews and consolidates Echelon IV and V NAVOSH reporting requirements with a focus on identifying trends for actions required in support of laboratory safety and health programs.
- Serves as the Command Safety Officer.

OFFICE OF THE DIRECTOR OF FINANCE/COMPTROLLER



Director of Finance/Comptroller (10)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Executive Officer as line supervisor.
- Acts as Program Element Manager for RDT&E,N Program Element 65861, "Management Support".
- Organizes approved financial plans into fiscal programs and provides recommendations on major alternatives using financial data to enhance the program decision process and ensure maximum use of available resources.
- Prepares the Medical Department RDT&E budget by coordinating fund estimates and justifications for resources.
- Develops and maintains budgetary data acquisition and retrieval systems.
- Maintains fiscal controls based on reprogramming actions.
- Maintains liaison with organizations involved in RDT&E budget formulation and execution (i.e. Chief of Naval Operations, Office of Naval Research, and Naval Medical Command).
- Monitors field activity performance for compliance with proposed financial plans and recommends fund authorization adjustments as necessary.

- Provides the Naval Medical Command Comptroller with programming data for RDT&E projects that will become operational and affect O&M,N funding.
- Is appointed in writing as the Command Allotment Administrator.

Assistant Director of Finance/Comptroller (101)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of Finance/Comptroller as line supervisor.
- Coordinates and analyzes program planning documents from higher authority.
- Assembles medical RDT&E planning data and submits required FYDP input.
- Translates approved programs into a financial plan and formulates annual supplemental and special budget estimates for submission by the Commanding Officer.
- Prepares budget estimates, special exhibits and justification material in accordance with guidelines issued by higher authority.
- Requests estimates of fiscal requirements from field activities and program managers and reviews and analyzes their responses.
- Maintains status of funds control in the budgetary execution process.
- Assumes the duties and responsibilities of the Director when the Director is absent from the Command. When acting in this capacity, the Assistant shall have full authority to function on behalf of the Director in all financial matters.
- Supervises personnel assigned to the Accounting Division (102).

OFFICE OF THE DIRECTOR OF MANPOWER/PERSONNEL

<p align="center">Director of Manpower/Personnel (20)</p>
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Director of Manpower/Personnel (201)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Executive Officer as line supervisor.
- Advises the Commanding Officer and Echelon IV and V activities on policies and procedures that govern the assignment, distribution and utilization of officer, enlisted, and civilian personnel.
- Maintains liaison and close coordination with the Naval Military Personnel Command and Naval Medical Command on matters which affect the assignment and distribution of officer and enlisted personnel.
- In coordination with the Director of Finance, implements and monitors Managing to Payroll policy throughout NAVMEDRSCHDEVCOM.
- Proposes policy on civilian personnel development, recruitment, utilization, promotion, position classification, training, incentive awards, and time and attendance.
- Evaluates field activity position Management Programs and develops recommendations to improve their position management performance.
- Manages the Command mobilization planning and contingency readiness program, reviewing all documents from field activities, and responding to requirements of higher authority as necessary.

OFFICE OF THE DIRECTOR OF FACILITIES AND EQUIPMENT MANAGEMENT



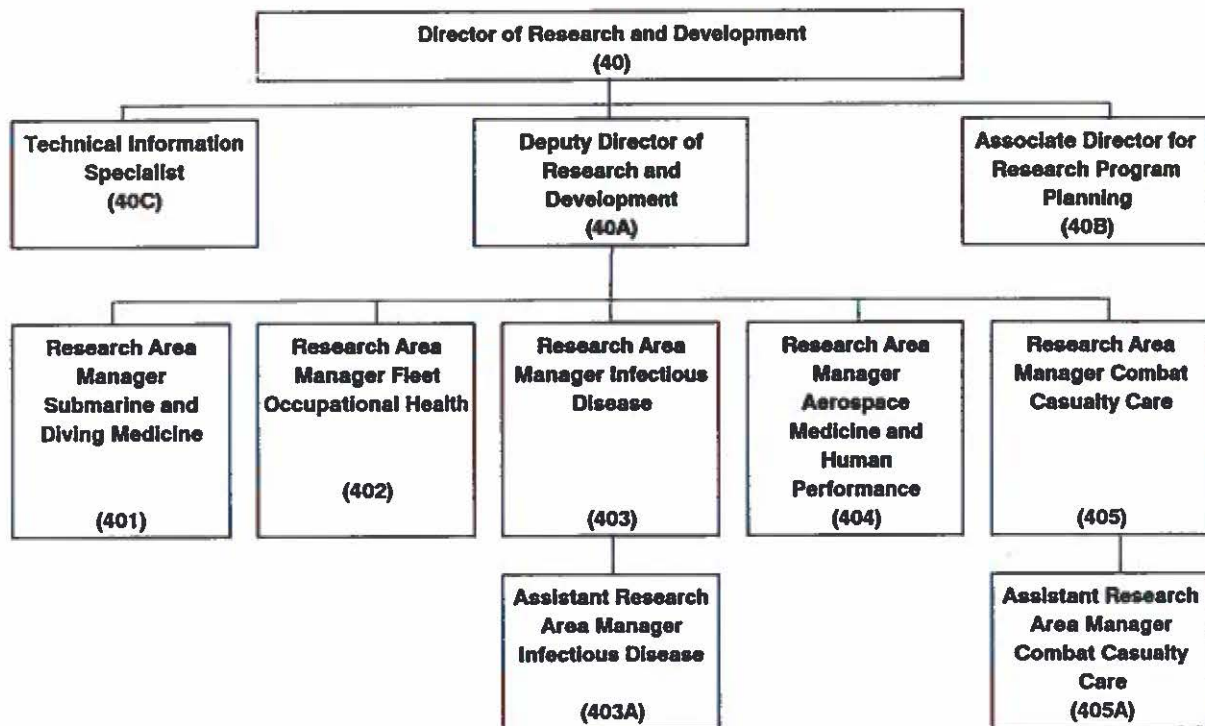
Director of Facilities and Equipment Management (30)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Executive Officer as line supervisor.
- Acts as Program Element Manager for RDT&E,N Program Element 65862N, Project M0105, "Navy Medical Instrumentation and Material Support".
- Manager of facilities planning, programming, and budgeting for NMRDC and subordinate activities. Monitor of program execution for Military Construction (MILCON), Facilities Special Projects and the Shore Facilities Planning System.
- Liaison with NMCNCR Public works Division for NDWDC required alteration, construction, or repair special projects, excluding routine repair and maintenance trouble calls.
- Assists the Administrative Officer with NMRDC space assignments and any facility alterations and utility service changes.
- Manager of general purpose equipment planning, programming, and budgeting for NMRDC and subordinate activities. Monitor of program execution of equipment procurement, utilization, and redistribution. Justifies and initiates procurement of general purpose equipment for NMRDC.
- Manager of the Information Systems Program for NMRDC and subordinate activities and serves as liaison with Naval Medical Data Services Center for RDT&E ADP matters. Serves as the Executive Agent for NMRDC Information Systems Policy Board, the NMRDC ADP Security Officer and the manager of in-house ADP assets.

Assistant Director of Facilities and Equipment Management (301)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of Facilities and Equipment Management as line supervisor.
- Assists the Director of Facilities and Equipment Management in the management and oversight of facilities, equipment, and information systems, with primary emphasis on facilities planning.
- Assumes the duties and responsibilities of the Director when the Director is absent from the Command. When acting in this capacity, the Assistant shall have full authority to function in behalf of the director in all facilities, equipment, and information system matters.

OFFICE OF THE DIRECTOR OF RESEARCH AND DEVELOPMENT



Director of Research and Development (40)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Executive Officer as line supervisor.
- As the principal scientific advisor to the Commanding Officer, directs the development, management, evaluation and documentation of in-house and contract RDT&E programs in response to identified Navy and Marine Corps needs and requirements. Formulates budgets for Research, Exploratory Development, Advanced Development and Engineering Development programs.
- Exercises research program quality control and assures responsiveness to RDT&E needs through the establishment, management, and support of review panels and technical workshops.
- Directs the preparation of briefing material and program documentation required by higher authority.
- Initiates and maintains scientific liaison and coordination with other governmental and non-governmental organizations with the purpose of achieving program coordination, avoiding duplication and exploiting existing R&D capabilities to meet Navy needs.
- Reviews and approves in-house and contract RDT&E proposals.
- Develops scientific and technical instructions and guidelines for in-house and contract research and development.
- Acts as the Scientific Program Element Manager for all RDT&E 6.1 through 6.4 assigned Program Elements.
- Prepares responses to Congressional inquiries and DOD-organized apportionment issues on research program content and funding levels.
- Formulates scientific and technical management recommendations for the Commanding Officer.

Deputy Director of Research and Development (40A)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of Research and Development as line supervisor.
- Prepares Command guidance on Five Year Plan submissions.
- Prepares annual inputs to the Program Objectives Memorandum process.
- Develops annual Command program and fiscal guidance.
- Reviews all in-house and contract RDT&E efforts.
- Conducts oversight of the functions of Ad hoc scientific review panels.
- Serves as the Command focal point for the definition, validation and documentation of scientific program requirements.
- Assumes the duties of the Director of Research and Development in the absence of that official.

Associate Director for Research Program Planning (40B)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of Research and Development as line supervisor.
- Conducts research program planning to ensure that Navy medical research is responsive to Navy and Marine Corps operational needs.
- As Program Element Manager of the NAVMEDRSCHDEVCOM Independent Research (IR) Program, (PE61152N) develops IR basic research initiatives, establishes IR research goals, evaluates IR research progress, and develops a resource allocation plan to ensure maximum scientific productivity of IR programs.
- Manages automated systems for current and out-year fiscal planning to ensure that fiscal resources are utilized and allocated in accordance with Navy prioritized requirements.
- Compiles and presents verbal and written statistical and narrative data on research program content, funding, plans, accomplishments at briefings, meetings, and conferences.
- Coordinates and evaluates proposals for new RDT&E projects.

Information Services Specialist (40C)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of Research and Development as line supervisor.
- Manages and monitors the scientific and technical information resources of the Command.
- Conducts literature searches, locates technical publications, and provides information gathering services as required by the staff.

Office of the Submarine and Diving Medicine Research Area Manager

Research Area Manager, Submarine and Diving Medicine (401)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of Research and Development as line supervisor.
- Coordinates the planning and Administration of research and development efforts that involve the unique medical aspects of submarine and diving operations in support of specific underwater operational goals.
- Coordinates the medical RDT&E diving and submarine program with Naval requirements.
- Maintains liaison with the appropriate officials of the Naval Medical Command, Chief of Naval Operations, Naval Sea Systems Command, Office of Naval Research, Office of Naval Technology, and other activities concerned with underwater technology.

- Monitors in-house and contract programs in submarine and diving medicine, and advises laboratories on requirements and priorities.
- As an appointed U.S. Navy representative, serves as an active participant in international scientific exchanges and cooperation agreements involving diving and submarine medical research and development.
- Assists the Research Area Manager for Aerospace Medicine and Human Performance in the Joint Technology Coordinating Group (JTCG) for Human Systems Technology in the area of Environmental Physiology.

Office of the Fleet Occupational Health Research Area Manager

Research Area Manager Fleet Occupational Health (402)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of research and Development as line supervisor.
- Coordinates the planning, development, support, and administration of medical research in characterizing and evaluating occupational hazards from chemical, physical, and biological stresses in operational environments (including heat, noise, vibration, atmospheric contaminants and various forms of electromagnetic radiation, including laser produced radiation), determining human exposure limits and developing effective measures for personnel protection.
- Responsible for coordination of all phases of Navy-unique medical research in chemical warfare defense.
- Provides centralized integration and coordination of the Navy's Biological Effects of Electromagnetic Radiation Program.
- Maintains liaison with related Command research programs, appropriate Naval Medical Command operational codes, Office of the Chief of Naval Research, subordinate laboratories and other government departments and agencies.
- Monitors in-house and contract RDT&E programs for these areas and advises field activities on research requirements and priorities.
- Serves as the Navy representative to the Joint Technology Coordinating Group (JTCG) for Chemical Warfare Defense for the Armed Services Biomedical Research Evaluation and Management (ASBREM) Committee.
- Assists the Research Area Manager for Aerospace Medicine and Human Performance (NMRDC-404) in the Joint Technology Coordinating Group for Human Systems Technology in the areas of Non-ionizing Radiation Bioeffects and Chemical Toxicology.

Office of the Infectious Diseases Research Area Manager

Research Area Manager, Infectious Diseases (403)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of Research and Development as line supervisor.
- Coordinates the planning, development and administration of RDT&E directed toward the epidemiology, immunology, rapid diagnosis, treatment, vaccine development and control of infectious diseases of military importance.
- Maintains liaison with the appropriate Naval Medical Command operational codes, the Navy Environmental Health Center, the Marine Corps, the Army Medical R&D Command, the Uniformed Services University of the Health Sciences, the Office of Naval Research, the Office of Naval Technology, the Armed Forces Epidemiological Board, the Armed Forces Pest Management Board, and the National Institute of Allergy and Infectious Diseases.
- Monitors the in-house and contract infectious diseases RDT&E program and keeps performing organizations advised as to requirements and priorities.
- Serves as the Navy representative on the Joint Technology Coordinating Groups (JTCGs) for Infectious Diseases of Military Relevance, and for Medical Biological Warfare Defense for the Armed Services Biomedical Research Evaluation and Management (ASBREM) Committee to coordinate RDT&E in areas of infectious diseases and biological warfare defense.
- Serves as the Commanding Officer's Special Assistant for Overseas Laboratory Affairs as a collateral duty.

Assistant Research Area Manager, Infectious Diseases (403A)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Infectious Disease Research Area Manager as line supervisor.
- Assists in the management and oversight of Infectious Diseases Research Programs.
- Assumes cognizance over Infectious Diseases Program matters when the Research Area Manager is absent from the Command. When acting in this capacity the Assistant shall have full authority to function on behalf of the Research Area Manager in all program matters.
- Serves as the Liaison Officer to the U.S. Army Medical Research and Development Command and is responsible for integrating the Navy scientific program areas where the U.S. Army serves as executive agent for the Department of Defense (Infectious Disease, biological Warfare Defense, and Combat Dentistry).

Office of the Aerospace Medicine and Human Performance Research Area Manager

Research Area Manager, Aerospace Medicine and Human Performance

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Director of Research and Development as line supervisor.
- Coordinates planning and administration of life science research and development on human performance effectiveness in operational systems and environments of the naval service, including: work on the measurement and prediction of human performance under operational stresses (e.g., motion, sustained operations, thermal, noise, acceleration/impact, heavy workloads, etc.) of naval systems from which to develop human factors criteria for medical selection, training, engineering, work procedures; and performance maintenance/enhancement; work on the behavioral and psychological dimensions of health and safety under operations and stressful duties of naval service from which to develop criteria for medical screening and safety standards; and biomedical/biomechanical intervention techniques to maintain and/or enhance mental and physical performance in adverse operational settings.
- Maintains technical liaison with operational codes of the Office of the CNO, Naval Medical Command, Office of Naval Research, Naval Military Personnel Command, and Naval Systems Commands, as well as those of the Departments of the Army and Air Force, and other government agencies, for matters pertaining to Aerospace Medicine and Human Performance.
- Coordinates the planning, development, and administration of RDT&E projects in the multiple fields and disciplines associated with aviation medicine and human performance.
- Monitors in-house and contract aviation medicine and human performance R&D programs and keeps performing organizations advised as to requirements and priorities.
- Serves as Navy Representatives on selected U.S. Navy, triservice, and international committees, as appointed, to coordinate R&D in the thrust areas of aviation medicine and human performance research.
- Serves as the Navy representative on the Joint Technology Coordinating Groups for Human Systems Technology for the Armed Services Biomedical Research evaluation and Management (ASBREM) Committee to coordinate joint service issues in RDT&E in the six areas of: Mechanical Forces/Biodynamics, Nonionizing Radiation Bioeffects, Personal Protective equipment Technology, Operational Medicine/Performance, Chemical Toxicology, and Environmental Physiology.

Office of the Combat Casualty Care Research Area Manager

Research Area Manager, Combat Casualty Care (405)

- Is directly accountable to the Command Officer for mission execution, but reports to the Director of Research and Development as line Supervisor.
- Coordinates the planning, development and administration of RDT&E efforts directed toward improved treatments and care of casualties in combat environments.
- Monitors in-house and contract RDT&E requirements and priorities.
- Maintains liaison with the appropriate organizational codes of the Naval Medical Command, Office of Naval Research, Naval Sea Systems Command, Marine Corps, laboratories under the control of the Space and Naval Warfare Systems Command, Army Medical Research and Development Command, the Air

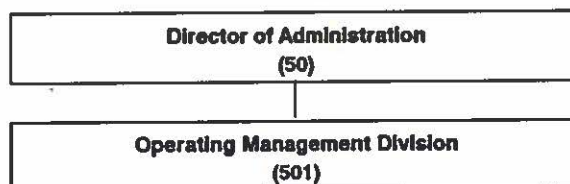
Force Aerospace Medical Division, National Institutes of Health and other government agencies to facilitate management and execution of research area responsibilities.

- Serves as the Navy representative on the Joint Technology Coordinating Group (JTCG) for Combat Casualty Care for the Armed Services Biomedical Research Evaluation and Management (ASBREM) Committee to coordinate RDT&E in the thrust areas of: Burns and Trauma, Shock and Sepsis, Blood and Blood Substitutes, Combat Care in Extreme Environments, and Combat Medical material.
- Serves as an appointed U. S. Navy representative as U.S. Project Officer for Annex No. WDDBA-71-G-4209 "Blood Research" of Defense Development Exchange Program in DOD and Armed Services Blood Program Office (ASBPO).

Assistant Research Area Manager, Combat Casualty Care (405A)

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Combat Casualty Care Research Area Manager as line supervisor.
- Coordinates the planning, development and administration of RDT&S efforts directed toward unproved treatment and prevention of dental disease and dental emergencies, and the care of combat casualties with maxillofacial injuries.
- Assists in the management and oversight of Combat Casualty Care Research Programs.
- Assumes cognizance over Combat Casualty Care Program matters when the Research Area Manager is absent from the Command. When acting in this capacity, the Assistant shall have full authority to function on behalf of the Research Area Manager in all program matters.

OFFICE OF THE DIRECTOR OF ADMINISTRATION



Director of Administration

- Is directly accountable to the Commanding Officer for mission execution, but reports to the Executive Officer as line supervisor.
- Serves as the principal administrative advisor to the Commanding Officer. He directs the management of the Office of the Commanding Officer; reviews and makes recommendations on all correspondence originating from the Command; maintains current information regarding laws, regulations, policies, and instructions pertaining to Naval administration; acts as Command liaison between offices of the Department of Defense, Naval Medical Command, Naval Military Personnel Command, and other agencies on matters affecting administration. Advises and assists subordinate commands in the interpretation and application of Command policy.
- Directs the Operating Management Division.
- Administers the Command Public Affairs Program and serves as the Command Public Affairs Officer.